

# Yttria

NANOE

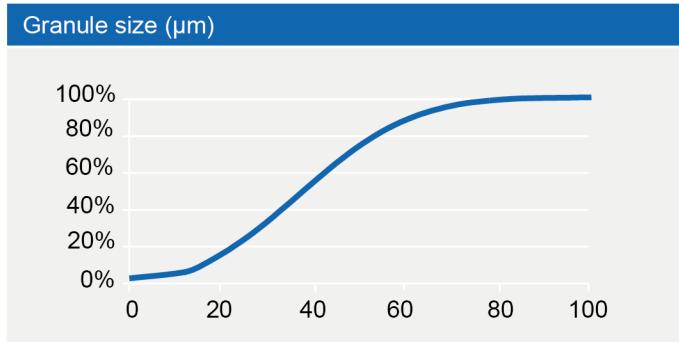
We offer two main types of yttria powders: one with binding system ( $\text{Y}_2\text{O}_3$ -BA), one without ( $\text{Y}_2\text{O}_3$ ). The powders are available in spray-dried granulates, in slurries, or in ceramic injection molding.

## Key Benefits

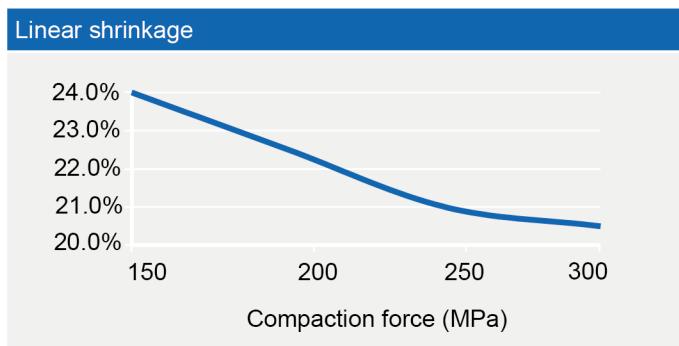
### High thermal resistance

General characteristics		$\text{Y}_2\text{O}_3$ -BA / $\text{Y}_2\text{O}_3$
Loss on ignition	wt%	4 / 2
Average cristallite size	nm	150
Free density	g/cm <sup>3</sup>	1.3
Minimum purity	%	99.9
Cristalline phase		Cubic
Specific surface area	m <sup>2</sup> /g	20 ± 2
Granulates size	µm	35

### High chemical resistance



Purity		$\text{Y}_2\text{O}_3$
$\text{Y}_2\text{O}_3 + \text{other rare earth}$	wt%	> 99.9
$\text{ZrO}_2$	ppm	< 500
$\text{Al}_2\text{O}_3$	ppm	< 500
$\text{Na}_2\text{O}$	ppm	< 50
$\text{SiO}_2$	ppm	< 50
Other RE (Nd, La, Dy...)	ppm	< 1000



Sintering		$\text{Y}_2\text{O}_3$
Compaction force	MPa	> 200
Sintering temperature	°C	1580
Sintered density	g/cm <sup>3</sup>	4.98 (99%)
Intercept grain size	µm	1